

## Patent Abstracts of Japan

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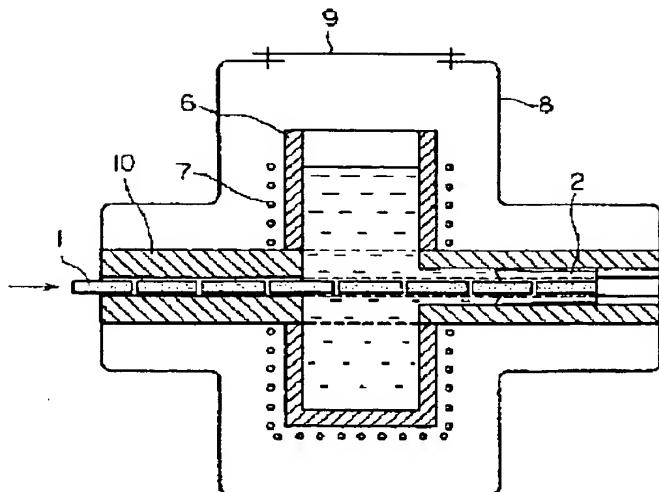
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APPLICANT : DOWA MINING CO LTD;

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TITLE : ALUMINUM-CERAMIC COMPOSITE  
SUBSTRATE AND ITS PRODUCTION



ABSTRACT : PROBLEM TO BE SOLVED: To improve heat cycle resistance by joining a molten aluminum sheet on the main surface of a ceramic substrate; and after executing an etching treatment, executing an annealing treatment.

SOLUTION: A aluminum 2 is set in a crucible 6, and after closing a cap 9, an inert gas is filled in a case 8 and the aluminum 2 is heated and the molten aluminum is obtained. Then the ceramic substrate 1 is inserted from a guide integrated type die 10 provide in the crucible 6, and after allowing the ceramic substrate to contact with the molten aluminum, the substrate is cooled and an aluminum-ceramic composite substrate is obtained. Then, an etching resist is subjected to heat-contact bonding, and after light shielding and developing, the etching is executed to from a prescribed circuit. Then, this circuit is annealed at a temp. lower than the melting point of the aluminum to regulate the crystal grain size of the aluminum material to  $\leq 1\text{mm}$ .

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